



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,190	03/13/2002	Shigeki Kanbara	TPS013-US1	3982

7590            08/06/2004

Tyco Electronic Corporation  
Intellectual Property Law Department  
307 Constitution Drive MS R20/1B  
Menlo Park, CA 94025-1164

EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 08/06/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/019,190	KANBARA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Kimnhung Nguyen	2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date 6_8. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

This Application has been examined. The claims 1-9 are pending. The examination results are as following.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Knowles (US 5,573,077).

Regarding claim 1, Knowles discloses in figure 3, an acoustic contact detecting device, comprising a substrate (10) having a top surface; an acoustic wave transducer (14) for coupling with a first wave (see shear wave 12) representative of a bulk wave being propagated through said substrate along an axis crossing said top surface (see column 6, lines 51-54); a planar wiring (see wiring connection of two transducers) for supplying said acoustic wave transducer (see column 7, lines 31-33) with an inherent electric power; a connecting device (see interconnect 340, figure 22, for connecting said acoustic wave transducer with the planar wiring (see column 18, lines 6-31); a diffractive acoustic wave mode coupler having a mode of converted wave having high energy (see figure 1D, column 2, lines 51-60) on said top surface and functioning for coupling a second wave(see shear wave 324) being propagated along an axis parallel to said top surface with said first wave (see figure 21, column 17,47-52); a means for detecting (see touch panel)a perturbation in the energy of said second wave.

Regarding claim 2, Knowles discloses in figure 2A and 3, a coordinate input device of touch-type comprising: a propagation medium having a top surface capable of propagating an acoustic wave (see column 6, lines 45-50); a bulk wave generation means (12) for propagating a bulk wave in a crossing direction with respect to said top surface of said propagation medium; a planar wiring for supplying this bulk wave generation means (see column 7, lines 31-33 with an inherent electric power; a connecting device for providing an electrical connection between said bulk wave generation means and said planar wiring (see column 18, lines 6-31); an acoustic wave generation means for converting said bulk wave into an acoustic wave and propagating said acoustic wave on the top surface of said propagation medium; and a detecting means (see touch panel or touch position sensor) for detecting a scatter in the surface of the acoustic wave from said acoustic wave generation means.

Regarding claim 3, Knowles discloses an acoustic wave transducer is composed of a piezoelectric vibrator (see column 6, lines 51-57).

Regarding claim 4, Knowles discloses the wiring is formed by using conductive paste (see metalized formed conductive epoxy (see column 17, lines 66-67, and column 18, lines 1-31)

Regarding claims 5-6, Knowles discloses an inherent the wiring is formed by way of transfer printing, and formed on back surface of the substrate (because the wiring always formed on printed circuit board, which is formed on back of the substrate)

Regarding claim 7, Knowles discloses the connecting device is made of conductive material having a step corresponding to a profile of said acoustic wave transducer (see column 17, lines 66-67, and column 18, lines 1-31).

Regarding claim 8, Knowles discloses said acoustic wave transducer comprises a piezoelectric substrate (10, figure 2A) and a piezoelectric vibrator (14) having electrode sections disposed on both surfaces of said piezoelectric substrate, and said planar wiring (figures 21-23) comprises a first wiring section (346) capable of contacting with one of said electrode sections of said piezoelectric vibrator by way of line, wherein said connecting device is formed in a form capable of connecting the other electrode section of said piezoelectric vibrator with said second wiring section (348, see column 18, lines 6-31).

Regarding claim 9, Knowles discloses substrate for an acoustic detecting device (see touch panel or touch sensor) having a top surface, said substrate further comprising an acoustic wave transducer coupled with a bulk wave having a propagation axis crossing said top surface in the substrate; a wiring for supplying said acoustic wave transducer with electric power, said wiring being printed on a back surface of said substrate; a connecting device for connecting said acoustic wave transducer with 5 said wiring; a diffractive acoustic wave mode coupling structure formed in the proximity to said surface for converting acoustic energy of the bulk wave into a wave to be propagated along an axis parallel to said top surface; and a means for detecting the converted acoustic wave energy corresponding to a position of a perturbation event as discusses in claim 1.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on (703) 305-4709.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D. C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only).**

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kimnhung Nguyen  
July 30, 2004



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600